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ENVIRONMENTAL MANAGEMENT

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SPEECH by

Dr. Walter R. Trost, CHAIRMAN
Alberta
ENVIRONMENT CONSERVATION AUTHORITY

Presented to
The EDMONTON CHAMBER of COMMERCE

FEBRUARY 16, 1972

ENVIRONMENT CONSERVATION AUTHORITY

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ENVIRONMENTAL MANAGEMENT

SPEECH by
Dr. Walter R. Trost, CHAIRMAN
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Presented to
The EDMONTON CHAMBER of COMMERCE
LUNCHEON MEETING at the CORONA HOTEL

FEBRUARY 16, 1972

INTRODUCTION

Mr. Chairman, Ladies and Gentlemen, it is a particular pleasure for me to meet with the Chamber and talk to it on the subject of Environmental Management. I have for some months now, since my move to Edmonton, hoped to have the opportunity of a meeting with the Chamber and the opportunity this invitation presents is therefore very welcome. The members of the Chamber are of course familiar with the role and the problems of management. To me an essential characteristic of management is its orientation to the future. Its task and responsibility is to figure out what needs to happen ahead of time and then take the proper steps so that the objective is attained and the operation goes smoothly when the time comes. Environmental management is also future oriented. The emphasis again falls on anticipation; on anticipating the future effects of present actions and introducing such steps as may avoid the environmental difficulties that can be foreseen. What environmental management adds to management's task is the requirement that life support processes, man's as well as other species, be included in the future that management normally seeks to anticipate. This is, of course, a reasonably complex extension of management's normal responsibilities. The time, however, may be almost right for the assumption of this additional role.

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It is largely believed that society may be just now emerging from a substantial re-evaluation of its fit as a species into the world as a whole. After a period of confusion, skepticism and sharp controversy as to whether or not man was creating excessive damage to his environment, or even if his future on earth were to be short or long, there are indications that a kind of consensus has now been reached. Are we not urged from all sides towards a similar objective, namely, the maintenance and restoration of an environment best suited to man and other forms of life now and for the future? Indeed, do we not all quite generally agree that there is a need for the development of policies for the management of the environment, taking into account the dynamics of life, the requirements of man and the resources available, and that the time has come for a rational approach to these objectives.

If a consensus has been set as to the general objective, what now remains are the mechanics of achieving it, the emphasis that is to be placed on different broad approaches, the identification of priorities, and an assessment of the interdependences and urgencies associated with the several tasks.

ENVIRONMENTAL MANAGEMENT

With the great increases in human population, and with the very considerable increases in resource consumption on the average by individuals that the recent past has seen, the total impact of the human species on the biosphere in which it lives has, it is often said, tested the capacity of the biosphere to absorb the wastes of man. At the same time, some of the ancient knacks man had of conserving his environment have been abandoned or have become impractical for an individual to implement. The great movement of people from the farms to the cities has undoubtedly enlarged

the scope and concentrated the impact of environmental problems. In a way, the problem seems simple. Many changes and advances have occurred quickly in society. It may only be necessary now to invent and introduce, or re-introduce, such sound environmental practices as are required to restore equilibrium in an environment that has undergone many substantial, sharp and unexpected changes. The extra new problem, however, seems to be that we must now also manage man.

There are, of course, several aspects to such a question. I would like to touch briefly on some of them, like technology, economics, ecology, education, legislation and the will of the people.

ENVIRONMENTAL TECHNOLOGY

It is probably true that environmental problems have been made more acute by the quick inroads a rapidly developing scientific technology enabled us to make into the physical resources of the world. It is to be hoped that that same ingenuity will help us to invent ways to manage the processes that now support us in such a way as to minimize or eliminate the undesirable side-effects. There are at least two parts to this problem. One has to do with the processes themselves and the other has to do with the people who control the processes. Both of these have strong educational as well as management components. The two together will produce the new environmental technology that will be needed if proper environmental management is to be achieved.

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ENVIRONMENTAL TECHNOLOGY

It is probably true that environmental problems have been made more acute by the great thrust of a rapidly developing science and technology that enabled us to make over the physical resources of the world. It is to be hoped that that same technology will help us to invent ways to change the processes that now threaten us in such a way as to minimize or eliminate the undesirable side-effects. There are at least two sides to this problem. One has to do with the processes themselves and the other has to do with the people who control the processes. Both of these have strong educational as well as managerial connotations. The two together will produce the new environmental technology that will be needed if proper environmental management is to be achieved.

NEW ENVIRONMENTAL ENTERPRISES

The addition of an environmental management attitude to the management of industry will certainly produce some changes. Many new businesses will be created. Some of these will be new in kind, developing new technologies or new relationships between people and things. Many will be interdisciplinary, many highly specialized in areas not yet well developed. New businesses may be able to gain competitive advantages by introducing new processes that solve environmental problems in a superior way, and old established businesses may have to adapt, add new divisions, renovate, as time passes.

ENVIRONMENTAL PLANNING and INTEGRATION

Man's relations with man and with the earth's resources are changing at a pace difficult to comprehend. Powerful forces are acting concurrently reshaping the physical and social environments. Problems and pressures arise from changes in technology, new social attitudes, and the growth of population and urbanization. Increased affluence and more leisure foster competing demands for finite resources. The future may well accentuate these trends.

One effect of these changes is to underline the interdependence of subjects that formerly were treated in a self-contained way. Another result is to emphasize the fundamental importance of anticipating the after-effects of present actions on life support processes, a fact vividly emphasized in the river, lake, delta and ocean systems of the world. Environmental management means pre-planning and integration of cause and effect, so that unfortunate consequences on living processes can be avoided.

The ECONOMICS of ENVIRONMENTAL MANAGEMENT

The economics of environmental management also has two parts to it. One has to do with the past, the other with the present and the future.

The past has undoubtedly left a legacy in the form of environmental damage that has accumulated in the air, the land and the water, as well as in the form of the capital costs of old industrial plants that no longer meet contemporary standards. The cost disbenefit of this legacy is thought to be substantial throughout the world, but a young mountain-bounded province is freer of them than most. Our concern is more largely with the present and the future.

For the present and the future there are reasons to suspect that in new on-going operations the costs though certainly real may not in percentage terms be overwhelmingly large. In the first place, good environmental management will prevent damages to people and property that are now borne as hidden costs and do not appear as costs in the product itself. Secondly, the environmental management cost borne by industry will no doubt somehow be passed on to the consumer where they will take their weight in the market place. Thirdly, in many cases it is to be expected that good environmental management will in fact improve returns, as it has in so many cases already, by reducing wastage, by increasing the range and novelty of by-products, by developing superior technology, by improved efficiencies through suitable recycling processes, and so on. Fourthly, and perhaps most importantly for us in Alberta, the requirements of environmental management will create new jobs and open up new employment opportunities for the working force.

It is sometimes estimated that the cost of environmental management may amount to about 5% of the costs of the finished product. Although this may seem a small percentage and is, of course, subject to wide variation,

in large resource industries like those in our Province it still will finance the introduction of an appreciable number of jobs as well as opportunities for an appreciable number of new business ventures to be launched. Moreover, since the cost of environmental management is going up at rather similar rates generally throughout the world, its impact on the market may not be competitively of overriding importance. Indeed, there are some grounds to suspect that the cost of legitimate environmental management, because of population densities, may be fractionally less in Alberta than in the United States, Europe and many of the Pacific Rim countries. Both, therefore, in respect of entrepreneurs who have specific environmental enterprises in mind, and in respect of the general business advantages that environmental management may afford to the Province, it seems not out of place to suggest that thought be given to taking a business advantage out of the opportunities that environment conservation presents in relation to the development of resource industries in the Province and indeed in Canada as a whole.

A disadvantage to resource development in Alberta is the distance to markets and the slow rates at which the environment restores itself. Compared to the tropics we can claim a share of that environmental fragility the Arctic is supposed to have. But we also have advantages. Resource development may be used as an example. Assume the costs of environmental management to be passed on to the consumer. In respect of resource developments like coal, oil, gas and forest products, the business of environmental management may be done for the most part within Alberta. In a general way then since we export most of these products, the extra costs may also in the large part be exported. Therefore the economic returns of environmental management could accrue, in the large part, to Alberta whereas their costs may, for the most part, be borne abroad. In brief, the result could be that a larger portion of the resource dollar would be kept at home. Of course, markets must be retained.

ECOLOGY

It is probably true that the human species now dominates the earth and other living species in a way that no other animal has ever done save perhaps the dinosaurs, although plants may also have achieved a total dominance of the earth's surface in their time. The coal measures that underlie us are a present token of that past dominance by botanical species. Naturally our first concern is with our own species and with its future prospects. This is human ecology. We must so consort ourselves through proper environmental management that our own species can be given assurance that its future will be healthy and secure. It is not an unnatural claim to make on one generation that it make preparations and keep safe the future for the next generation and perhaps the generation after that as well. But because man is so overwhelmingly the dominant life species, it may also fall on him without presumption to also make provision for the futures of living species other than his own. Indeed it may well be that his own survival will be directly linked to such an act, that it will be a selfish act in his own interest, not merely a beneficent one. It is altogether clear how directly man and other animals depend on the plant world. The plants manufacture the oxygen that man and animals must breathe if they are to live. Man also has vital and direct dependencies on other animal species. Consequently, in the statement that ecological considerations are basic to environmental management, the further statement that human ecology tends to include within itself all living processes, may only be a statement of simple human self-interest. It is in this sense, presumably, that one may say that environmental management assumes the maintenance of the human eco-system as its framework and responsibility.

ENVIRONMENTAL EDUCATION

Environmental education has principally two tasks, unless research should be included in its role. These are to help the development of an attitude of environmental awareness in all of us as individuals, and then to provide the specialized skills that will be needed at the technical and professional level in industry and government as suitable environmental management practices are instituted. It is encouraging to see how the post-secondary institutions in this Province are moving forward now to develop environmental education programs. An output will be teachers who can then move into the public school systems including the elementary level and provide the kinds of awarenesses that the next generation is seeking and will need if man is to live comfortably within his environment.

It is also probably self-evident that environmental education outside the formal education system is also desirable and may in some cases be most helpful. I have here in mind the thought that there may perhaps be a specific requirement for what might be called in-house training within industry and within government so that people in employment now can be given suitable instruction so that the jobs they undertake or may be called upon to undertake can be conducted in an environmentally safe way. There is also a role for in-house programs when new procedures need to be adopted to avoid environmental damage. It may be that training programs in industry worked out in collaboration with institutes of technology might be a useful way for introducing the new techniques and controls that environmental management may introduce into contemporary processes.

ENVIRONMENTAL LEGISLATION

In a democratic society legislation is something like an armed truce between government and those who are governed. No-one likes to be over-regulated but at the same time no-one wishes to suffer from the unregulated bad behaviour of others.

The introduction of quite new legislation, in which new formal definitions constrain the behaviour of citizens in areas where restraints previously had not existed, carries with it a special significance, particularly in a democracy. Since the majority will prevails in a democracy, particularly on matters of fundamental importance, the first appearance of such new legislation indicates that a new consensus has formed or is forming up in the public mind. The new legislation then indicates that the democratic process is at work, trying to give a satisfactory expression to the new consensus.

It is at this evolutionary stage that environmental legislation may now be. New legislation in its turn has different testing points, and returns to the public in a democratic society for pragmatic evaluation at each of them. There is first the point where the legislation is formed and passed, then when regulations supporting the legislation are created, and finally when enforcement procedures are adopted and experienced.

For the environmental manager and for the businessman it is important that legislation, regulations and enforcement be clear, firm, flexible when necessary,and fair to all. Then the manager can get ahead with his work, and no business can take an unfair competitive advantage of another.

The WILL of the PEOPLE

It may be that, in the past few years, a general consensus has formed that society must now seriously begin to assume the responsibilities of environmental management, including the management of man himself. Indeed, some effects of such a view can be seen in governments, in industry and in some cases in individuals as well. However, if there is consensus as to the objective, there may not be as to the means of reaching it. Indeed, a different commitment is required from people in this second phase. Opinion and argument must transform into rational discussion and lead to reasonable actions. The will of the people must show itself through the actions of individuals as all cooperate to support and achieve sound environmental management practices.

The INTERDEPENDENCIES in ENVIRONMENTAL MANAGEMENT

In closing I would like to emphasize how, in my view, environmental management brings many different elements together. It either leans, relies on or requires economic, ecological and educational processes, while at the same time it must go forward within the umbrella of the public will and under the direction and constraints of legislation. Environmental management is the practical application of what environmental education and technology has made possible for us as individuals, and as groups, in industries and corporations within the human eco-system. It must be sensitive to the ultimate impact that man's activities have on living processes, and it must be practical and wise about the economic restraints placed upon businesses, and upon the requirements for employment and decent livelihoods that are the reasonable expectations of each of us. There is no doubt that the addition of environmental management to management's responsibilities will add a new dimension to its outlook.

This is true, I believe, of every management role whether it be in business, in industry, in government or in the home. Clearly city management, for example, is heavily involved in environmental management. Indeed, the cities together with industries are already moving to accept this new challenge but much remains to be done.

As management begins to take on this new responsibility, as I believe it will, a long, multi-level series of discussions and actions must be envisaged, embracing the public at large, industry and government at all levels. To protect the future of our species it may well be that society and industry are being compelled to take on a new order of complexity in their structure and in their relationship to the bio-physical world, and that may be the task to which we are addressing ourselves.